UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Offic
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Washington, D.C. 20231

AD

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---|---|---|---|
| 08/838,452 | 04/07/97 | FARNWORTH W | 91-62.17 |

MM12/0616

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| EXAMINER | |
|---|---|
| KARLSEN,E | |
| **ART UNIT** | **PAPER NUMBER** |
| 2858 | 31 |

**DATE MAILED:**
06/16/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

| Application No. | Applicant(s) |
|---|---|
| 08/838452 | FARNWORTH ET AL |
| **Examiner** | **Group Art Unit** |
| E. KARLSEN | 2858 |

*—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—*

**P ri d for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

☒ Responsive to communication(s) filed on NOVEMBER 16, 1998.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

**Disp sition of Claims**

☒ Claim(s) 78-82, 87, 88, 90-93 and 96 is/are pending in the application.

Of the above claim(s)_____ is/are withdrawn from consideration.

☐ Claim(s)_____ is/are allowed.

☒ Claim(s) 78-82, 87, 88, 90-93 and 96 is/are rejected.

☐ Claim(s)_____ is/are objected to.

☐ Claim(s)_____ are subject to restriction or election requirement.

**Application Papers**

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ Th proposed drawing correction, filed on_____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on_____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

**Pri rity under 35 U.S.C. § 119 (a)-(d)**

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number)_____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received:_____.

**Attachment(s)**

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Draftsperson's Patent Drawing R vi w, PTO-948

☐ Interview Summary, PTO-413

☐ Notice of Informal Patent Application, PTO-152

☐ Other_____

**Office Action Summary**

1. Claims 83, 89, 94 AND 95 ARE withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to a non-elected species. Election was made **without** traverse in Paper No. 22.

2. Claims 78-82, 87, 88, 90-93 and 96 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what all the claimed elements are and it is not clear how they are interconnected and interrelated to produce the desired results. How the plate retains the die is not clear. It appears that element 41 is on the plate, that element 77 is on element 41 and that the die, element 21, is on element 77. The relationship of the parts is not clear.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 78-82, 87, 88, 90-93 and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malhi et al '190 or Elder et al '850 in a first set in view of Nakano in a second set and Blonder et al. Bindra et al or Anschel et al in a third set.

The first set shows test contacts on a substrate wherein both are made of silicon. The contacts of the second set have a penetration limiting planar surface. The third set shows penetration limiting contacts with plural points. Note that the plural points of Blonder et al are spaced. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to have adapted the substrate and contact structure of the second set to the apparatus of the first set because such would enable testing without differential thermal expansion and to adapt the plural contact features of the third set to the resulting apparatus because such would enable more reliable contact. The height of the raised portion would in accord with the teaching of the second set be of an appropriate amount. That which is being tested is considered a matter of choice. Recessed metal bond pads are old and well known in the art and would be included in that normally tested with an apparatus of the above combination.

5. Claims 78-82, 87, 88, 90-93 and 96 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Nakanao in a first set in view of Blonder et al, Bindra et al or Anschel et al in a second set.

The reference were discussed above. It is additionally noted that Nakano can be used to test wafers or chips as stated on page 2 at lines 3 and 4. One skilled in the art would realize that the test probe and the chip would have to be held together somehow. For instance, the chip might be placed on a vacuum chuck and the test probe held above and the chuck raised until proper contact is made. The chip might be held in a plate with a cutout and the test probe clamped to the plate wherein the test probe and plate are biased toward each other. The bias could be applied between the ends of a U-shaped arm or a weight ~~cold~~ could be placed on top of the assembly. The possibilities are many. It would have been obvious to one ordinary skill in the art at the time invention was made ~~adapted~~ to have adapted the plural tipped probes of the second set to the apparatus of the first set because

one skilled in the art would realize that so doing would provide more reliable contact. Note figures 4 and 5 of ~~Bindra et al~~ Blonder et al.

6. Applicants' arguments with regard to the previous rejections and with regard to the claims as now amended have been considered but are found non-persuasive. Applicants continue the argument of proper force. The examiner continues to contend that one skilled in the art would apply a force sufficient to make contact but not so great as to destroy the device under test. The Nakano reference is from another age in this fast changing field of technology, but once again, ~~One~~ one skilled would make adjustments for the decreasing dimensions of components on an IC chip. One who doesn't know enough to do so could hardly be considered skilled. The range of biasing forces are not claimed as argued and even if they were the use of proper force would be considered obvious. The "first and second force" arguments relate to material considered inherent in Nakano. Applicants appear to concede that the date of Anschel et al is not a deterrent to its being used as a reference.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Karlsen/ds

06/15/99

Ernest D. Karlsen

ERNEST KARLSEN
PRIMARY EXAMINER